

REMARKS

Claims 1- 14 are pending. Claims 1, 8, and 11 have been amended, and no new matter has been added.

§102 Rejections

Claims 1 and 3 - 7 are rejected under 35 U.S.C. §102(e), as being anticipated by Mehrad et al. U.S. Patent No. 6,765,257 B1 (hereinafter, Mehrad). Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 1 and 3 - 7 is neither shown nor suggested by Mehrad.

The Examiner is respectfully directed to independent Claim 1, which recites that an embodiment of the present invention is directed to an integrated circuit device comprising:

an array of cells, said cells comprising a source, a drain and a gate, wherein a region under said gate is manufactured such that said region comprises overlapping lateral diffusions of implantation regions of said source and said drain;
a common source line coupled with said source; and
a source contact disposed outside of said common source line and coupled with said source.

Claims 2 - 7 depend from independent Claim 1 and recite further limitations of the claimed invention.

Applicants submit that Mehrad does not anticipate or render obvious, “an array of cells, said cells comprising a source, a drain and a gate, wherein a region under said gate is manufactured such that said region comprises overlapping lateral diffusions of implantation regions of said source and said drain,” as is recited in Claim 1. Instead, Mehrad is silent with respect to manufacturing a region under a gate that comprises overlapping lateral diffusions of source and drain implantation regions.

Therefore, Applicants respectfully submit that Mehrad fails to anticipate or render obvious the Applicants’ invention as is set forth in Claim 1, and as such, Claim 1 overcomes the Examiner’s basis for rejection under 35 U.S.C. 102(e) and is in condition for allowance. Accordingly the Applicants also respectfully submit that Mehrad does not anticipate or render obvious the present claimed invention as is recited in Claims 2 - 7 dependent on Claim 1, and that Claims 2-7 overcome the rejection under 35 U.S.C. 102(e) through dependency on an allowable base claim.

Claims 8 and 14 are rejected under 35 U.S.C. §102(b), as being anticipated by Karp et al. U.S. Patent No. 6,266,269 B1 (hereinafter, Karp). The Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 8 and 14 is neither shown nor suggested by Karp.

The Examiner is respectfully directed to independent Claim 8, which recites that an embodiment of the present invention is directed to an integrated circuit device, “wherein parameters comprising dopant species, dopant concentration, implant energy, temperature, and duration are controlled during manufacture such that said manufacture achieves a first region under a gate that comprises overlapping lateral diffusions of source and drain implantation regions.” Claims 9-14 depend from independent Claim 8 and recite further limitation of the claimed invention.

Applicants submit that Karp does not anticipate or render obvious an integrated circuit device, “wherein parameters comprising dopant species, dopant concentration, implant energy, temperature, and duration are controlled during manufacture such that said manufacture achieves a first region under a gate that comprises overlapping lateral diffusions of source and drain implantation regions,” as is recited in Claim 8. Instead, Karp discloses a non-volatile memory element that is manufactured with a separation between the source and drain implantation regions; see e.g., col. 6, line 56 - 63 of Karp. Specifically, Karp teaches manufacture of an integrated circuit device comprising non-overlapping lateral diffusions of source and drain implantation regions, wherein merger or overlapping may or may not be selectively caused later by programming portions of the device at sometime after it has been manufactured. See e.g., col. 6, lines 56 - 63, col. 7 lines 13-24, and Figure 2C of Karp which show a merged diffusion that takes place after programming.

Nowhere however does Karp teach or suggest, either expressly or inherently, an integrated circuit device which is manufactured with a first region under a gate that comprises overlapping lateral diffusions of source and drain implantation regions, as in Claim 8 of the present invention.

Therefore, Applicants respectfully submit that Karp fails to anticipate or render obvious the Applicants' invention as is set forth in Claim 8, and as such, Claim 8 overcomes the Examiner's basis for rejection under 35 U.S.C. 102(b) and is in condition for allowance. Accordingly the Applicants also respectfully submit that Karp does not anticipate or render obvious the present claimed invention as is recited in Claims 9-14 dependent on Claim 8, and that Claims 9-14 overcome the rejection under 35 U.S.C. 102(b) through dependency on an allowable base claim.

§103 Rejections

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mehrad (as applied to Claims 1 and 3-7) in view of Hazani U.S. Patent No. 5,047,814 (hereinafter Hazani). Hazani shows an electrically erasable programmable read only memory (EEPROM) cell including isolated control diffusion. However, Hazani does not cure the deficiencies of Mehrad discussed above. In fact, nowhere in the Hazani reference is an integrated circuit device disclosed or suggested that includes, "an array of cells, said cells comprising a source, a drain and a gate, wherein a region under said gate is manufactured

such that said region comprises overlapping lateral diffusions of implantation regions of said source and said drain," as is recited in Claim 1 (from which Claims 2 depends).

Consequently, the embodiment of the Applicants' invention set forth in Claim 1 (from which Claim 2 depends) is neither anticipated nor rendered obvious by Mehrad or Hazani, either alone or in combination. As such, Applicants submit that Claim 2 overcomes the Examiner's basis for rejection under 35 U.S.C. 103(a), through dependence on an allowable base claim, and is in condition for allowance.

Claims 9 - 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karp (as applied to Claims 8 and 14) in view of Mehrad. Mehrad discloses an implanted vertical source line under straight stack for flash erasable programmable read only memory (FLASH EPROM). However, Mehrad does not cure the deficiencies of Karp discussed in conjunction with Claim 8. In fact, nowhere in the Mehrad reference is an integrated circuit device, "wherein parameters comprising dopant species, dopant concentration, implant energy, temperature, and duration are controlled during manufacture such that said manufacture achieves a first region under a gate that comprises overlapping lateral diffusions of source and drain implantation regions," as is recited in Claim 8 (from which Claims 9 - 13 depend) shown or suggested.

Consequently, the embodiments of the Applicants' invention set forth in Claim 8 (from which Claims 9 - 13 depend) are neither anticipated nor rendered obvious by Karp or Mehrad, either alone or in combination. As such, Applicants submit that Claims 9-13 overcome the Examiner's basis for rejection under 35 U.S.C. 103(a) through dependency on an allowable base claim, and are in condition for allowance.

SUMMARY

In view of the foregoing remarks, the Applicants respectfully submit that the pending claims are in condition for allowance. The Applicants respectfully request reconsideration of the Application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact the Applicants' designated representative at the below listed phone number.

Respectfully submitted,
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